The Insect Book. A popular account of the bees, wasps, ants, grasshoppers, flies and other North American insects, exclusive of the butterflies, moths and beetles, with full life histories, tables and bibliographies. By LELAND O. HOWARD, Ph.D., Chief of the Division of Entomology, U. S. Department of Agriculture. New York, Doubleday, Page & Company. 1901.

The very complete subtitle indicates the scope of the work, and if we add that 'where possible a typical life history has been given in each family treated,' we have the leading characteristic which distinguishes it from other American works which are nominally 'popular.' Another feature of importance is that these life histories, while interestingly and entertainingly presented, are nevertheless strictly correct and scientifically accurate, in strong contrast to some other 'popular' works where vague and extravagant statements to attract the wonder-loving are relied upon to win public favor.

Dr. Howard's book, then, in its plan and in its performance stands by itself in that it makes interesting reading for him who reads merely for general information, and helps the amateur who wishes to go a little further and learn something of the classification.

But it is in this latter feature that the only notable defect in the work is found; there is no introductory chapter that familiarizes the young student with the characters referred to in the tables, nor is there any explanation of how the tables are to be used. At the bottom of page 2 the last two lines read:

"1.—Pronotum not extending back to the tegulæ 2

Pronotum extending back to tegulæ, or the latter are absent ..... 3"

But what a pronotum is, or what are tegulæ, has not been previously indicated and is nowhere clearly explained.

Of course there are other books that explain all this; but it is a question whether in a book of this expressed scope these tables in such form are of any real assistance to the owner. They could have been omitted without any loss whatever.

On the other hand, the chapter on collecting and preserving insects is in all respects admirable and exactly what is needed by the tyro whom the book may interest in the subject. The ground covered by the book is so great and the general treatment is so concise and to the point that, aside from the statement that it could scarcely be better done, little remains to be said.

A book of this kind, put out in attractive form, liberally illustrated and at a really low price ($3), will do much to create an interest in a series of insects concerning which little is generally known.

The illustrations are deserving of separate commendation. There are 264 text figures and almost without exception these are admirable. There are 48 half-tone plates, of which a fair proportion are colored, and these illustrate interestingly the limitations of this process where detail is required for identification. Nothing better has ever been done by this process and perhaps nothing better can be done. Some plates, like I. and II., are eminently satisfactory; in others, like XIV. in the same order, the majority of figures are useless for specific identification.

The book is well printed, small 4to, with xxvi + 429 pages. It contains a very complete index and a well-arranged bibliography covering the orders treated.

JOHN B SMITH.

SCIENTIFIC JOURNALS AND ARTICLES.

THE *Journal of Comparative Neurology* for September (Vol. XI., No. 2) contains, in addition to the usual reviews of literature, but one paper, entitled, 'The Neurones and Supporting Elements of the Brain of a Selachian,' by Dr. Gilbert L. Houser, of the University of Iowa, a monograph of 110 pages, with eight plates. The entire central nervous system of the common dog shark, *Mustelus*, has been examined by a variety of the best neurological methods, both new and old, and the attempt is made to give a picture of the *complete* neurones characteristic of each important region of the brain. So far as this can be attained by the methods of Weigert, Golgi, Nissl and Haidenhain, among others, it has been quite successfully accomplished, and thus an important ad-

dition is made to our knowledge of a critical phylogenetic stage of the vertebrate nervous system. The supporting elements have been subjected to the same careful study. The phylogenetic point of view has been before the author throughout, and interesting general conclusions are suggested in connection with the various encephalic regions, notably, the problems of nerve components, the phylogeny of the cerebellum, Reissner's fiber and its associated mechanism for direct motor reflexes between the optic tectum and the body musculature, and the forebrain.

The Popular Science Monthly for September has for frontispiece a portrait of Charles Sedgwick Minot, President of the American Association, and a brief sketch of his life is to be found in 'The Progress of Science.' In the first article, 'The Greatest Biological Station in the World,' W. A. Herdman describes the Naples Station and its work in a most interesting manner, and no one could be found better capable of speaking authoritatively on the subject of zoological stations. C. K. Edmunds gives a sketch of 'Henry Cavendish,' that remarkable character known as the Newton of Chemistry, and Havelock Ellis gives the summary and conclusions of the 'Study of British Genius,' leaning towards Aristotle's dictum that 'no great genius is without some mixture of insanity.' C. B. Davenport presents a paper on the 'Statistical Study of Evolution,' the quantitative method in scientific study being one to which he has given marked attention. Robert Koch's address before the British Congress on Tuberculosis on 'The Combating of Tuberculosis' is not only very interesting but very encouraging in exhibiting the methods by which consumption may be checked. John T. Duffield describes the various steps in 'The Discovery of the Law of Gravitation,' and Byron D. Halstead discusses 'Plants as Water Carriers' and, after noting the mechanism by which this is performed, concludes that back of this is a vital force that has not been reduced to a physical or chemical basis. Edwin O. Jordan considers 'The Soluble Ferments or Enzymes,' stating that they simply influence the rate of change in any substance and do not cause the change itself. In 'The Progress of Science' is a most interesting note on Vitrified Silica.

The American Naturalist for August begins with a detailed description of 'The Texan Kœnenia,' by Augusta Rucker, who shows this peculiar arachnid to be distinct from the Sicilian species and names it *K. wheeleri*. Outram Bangs gives an account of 'Mammals Collected in San Miguel Island, Panama, by W. W. Brown, Jr.,' giving a list of twelve species, six of which are new and here named and described. Gary N. Calkins tells of 'Some Protozoa of especial Interest from Van Cortlandt Park,' giving a considerable amount of information regarding their habits, and Frank C. Baker discusses 'The Molluscan Fauna of the Genesee River,' showing the influence upon this of the falls of the Genesee at Rochester. Harold S. Conant describes 'The Conchometer,' a simple instrument for measuring the apical angle and length of gasteropod shells. The sixteenth part of 'Synopses of North American Invertebrates' treats of the Phalangidæ and is by Nathan Banks, and H. L. Osborn presents some 'Variation Notes.'

The Plant World for July contains, besides a number of notes and short articles, 'The Dragon Tree of Orotava,' by Alice Carter Cook, with a fine plate of one of these curious trees, supposed to be 4,000 years old, at Teneriffe; 'Our Puffballs,' by C. L. Shear; 'A March Day's Flowers,' by Charles E. Jenney, and a biographical sketch of 'Thomas Conrad Porter,' by A. A. Heller. The supplement, 'The Families of Flowering Plants,' by Charles Louis Pollard, discusses various families of the Geminales.

The Museum Journal (of Great Britain) for August contains a report of the Edinburgh meeting of the Museums Association and prints one of the papers read there, on 'The Smallest Museum,' by Kate M. Hall. The other papers presented will appear later. The announcement is made of 'The Gift of the Horniman Museum to the London County Council.' The balance of the number is occupied with notes from various museums.

A new journal, entitled *Beiträge zur Chemischen Physiologie u. Pathologie*, has been estab-

lished in Strassburg under the editorship of Professor F. Hofmeister. It is to be published by F. Vieweg & Son, of Braunschweig. Twelve numbers will form a volume, to cost fifteen marks.

ACADEMIES AND SOCIETIES.

THE SUMMER MEETING AND COLLOQUIUM OF THE AMERICAN MATHEMATICAL SOCIETY.

THE Eighth Summer Meeting of the American Mathematical Society was held at Cornell University, Ithaca, N. Y., on Monday and Tuesday, August 19–20, 1901. The Third Colloquium of the Society opened on Wednesday, August 20, and extended through the remainder of the week.

About sixty persons, including forty-five members of the Society, were in attendance during the four sessions of the summer meeting. The president of the society, Professor Eliakim Hastings Moore, occupied the chair. An address of welcome by Professor L. A. Wait, representing the University, was the forerunner of a most generous hospitality extended by the University and its individual officers. Formal resolutions adopted by the Society at the close of the meeting express in part its sense of appreciation of this cordial reception.

At the meeting of the council, Dr. E. R. Hedrick, of Yale University, and Mr. S. W. Reaves, of Michigan Military Academy, were elected to membership in the Society. Twelve applications for membership were received. A committee was appointed to prepare a list of nominations of officers for the coming year.

The entire time of the four sessions barely sufficed for the presentation and brief discussion of the long list of papers. Owing to various circumstances, only two days could be devoted to the meeting, while three would not have been excessive. At future summer meetings more time must be provided. Probably the annual meeting in December will also be extended to cover two days.

The following papers were presented:

1. PROFESSOR MAXIME BÔCHER: 'On certain pairs of transcendental functions whose roots separate each other.'

2. DR. J. I. HUTCHINSON: 'On a class of automorphic functions.'

3. PROFESSOR A. PRINGSHEIM: 'Ueber den Goursat'schen Beweis des Cauchy'schen Integralsatzes.'

4. PROFESSOR A. PRINGSHEIM: 'Ueber die Anwendung der Cauchy'schen Multiplicationsregel auf bedingt convergente oder divergente Reihen.'

5. MR. W. B. FORD: 'On the expression of Bessel functions in terms of the trigonometric functions.'

6. PROFESSOR E. H. MOORE: 'On the theory of improper definite integrals.'

7. PROFESSOR OSKAR BOLZA: 'New proof of a theorem of Osgood in the calculus of variations.'

8. DR. G. A. BLISS: 'The problem of the calculus of variations when the end point is variable.'

9. DR. J. C. FIELDS: 'On certain relations existing between the branch points and the double points of an algebraic curve.'

10. DR. J. C. FIELDS: 'The Riemann-Roch theorem, and the independence of the conditions of adjointness in the case of a curve for which the tangents at the multiple points are distinct from one another.'

11. PROFESSOR E. B. VAN VLECK: 'A proof of the convergence of the Gaussian continued fraction

$$\frac{F(\alpha, \beta+1, \gamma+1, x)}{F(\alpha, \beta, \gamma, X)}.$$

12. PROFESSOR T. E. MCKINNEY: 'Some new kinds of continued fractions.'

13. PROFESSOR E. D. ROE: 'Note on symmetric functions.'

14. DR. G. A. MILLER: 'Groups defined by the orders of two generators and the order of their product.'

15. DR. H. F. STECKER: 'On the determination of surfaces capable of conformal representation upon the plane so that the geodetic lines shall be represented by a prescribed system of plane curves.'

16. MR. C. N. HASKINS: 'On the invariants of quadratic differential forms.'

17. DR. EDWARD KASNER: 'The cogredient and digredient theories of double binary forms.'

18. PROFESSOR MAXIME BÔCHER: 'On Wronskians of functions of a real variable.'

19. MR. F. G. RADELFINGER: 'The analytical representation of a multiform function in the domain of an isolated singular point.'

20. DR. VIRGIL SNYDER: 'On the forms of unicursal sextic scrolls with a multiple linear directrix and one double line.'

21. DR. H. F. STECKER: 'Concerning the osculating plane of m-fold space filling curves of the Hilbert-Moore type.'

22. DR. H. F. STECKER: 'On non-euclidean properties of plane cubics and of their first and second polars.'

23. PROFESSOR L. E. DICKSON: 'Theory of linear groups in an arbitrary field.'